

United States Patent and Trademark Office

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandria, Virginia 22313-1450 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,326	09/18/2003	Earl O. Bergersen	BER-P-03-052	6248
29013 7	590 10/23/2006		EXAMINER	
PATENTS+TMS, P.C.			O'CONNOR, CARY E	
2849 W. ARMITAGE AVE. CHICAGO, IL 60647			ART UNIT	PAPER NUMBER
,			3732	
			DATE MAILED: 10/23/2006	

Please find below and/or attached an Office communication concerning this application or proceeding.

				_		
		Application No.	Applicant(s)			
Office Action Summary		10/665,326	BERGERSEN, EARL O.			
Office Action	on Summary	Examiner	Art Unit			
		Cary E. O'Connor	3732			
The MAILING DA Period for Reply	ATE of this communication ap	pears on the cover sheet with the c	orrespondence address			
A SHORTENED STAT WHICHEVER IS LONG Extensions of time may be av. after SIX (6) MONTHS from the service of the state of the	GER, FROM THE MAILING D ailable under the provisions of 37 CFR 1. ne mailing date of this communication. fied above, the maximum statutory period or extended period for reply will, by statut ce later than three months after the mailir	LY IS SET TO EXPIRE 3 MONTH(DATE OF THIS COMMUNICATION 136(a). In no event, however, may a reply be tin will apply and will expire SIX (6) MONTHS from e, cause the application to become ABANDONE ng date of this communication, even if timely filed	N. nely filed the mailing date of this communication. D (35 U.S.C. § 133).			
Status						
	ammunication(a) filed on 07 (Number 2000				
2a) ☐ This action is FIN	ommunication(s) filed on <u>07 /</u>					
' <u> </u>						
		Ex parte Quayle, 1935 C.D. 11, 45				
	and with the practice under	en parte Guayle, 1905 O.D. 11, 40	. O. O. C. 210.			
Disposition of Claims						
	s/are pending in the application					
·	claim(s) is/are withdra	•				
<u> </u>	8-91 and 117-122 is/are allow					
		. <u>92-107,109 and 112-116</u> is/are re	jected.			
	8 48 73 76 108 is/are objecte					
	are subject to restriction and/o	or election requirement.	•			
Application Papers						
9) ☐ The specification	is objected to by the Examina	er.				
10) The drawing(s) file	ed on is/are: a)□ acc	cepted or b) \square objected to by the ${ t E}$	Examiner.			
Applicant may not	request that any objection to the	drawing(s) be held in abeyance. See	∋ 37 CFR 1.85(a).			
		tion is required if the drawing(s) is obj	•			
11) ☐ The oath or decla	ration is objected to by the E	xaminer. Note the attached Office	Action or form PTO-152.			
Priority under 35 U.S.C. §	119					
12) ☐ Acknowledgment a) ☐ All b) ☐ Som	_	n priority under 35 U.S.C. § 119(a)	-(d) or (f).			
1. Certified co	opies of the priority documen	ts have been received.				
2.☐ Certified co	opies of the priority documen	ts have been received in Application	on No			
Copies of t	he certified copies of the price	rity documents have been receive	ed in this National Stage			
	from the International Burea					
* See the attached d	letailed Office action for a list	of the certified copies not receive	d.			
Attachment(s)						
Notice of References Cited		4) Interview Summary				
 2) Notice of Draftsperson's Pa B) Information Disclosure Stat 	atent Drawing Review (PTO-948)	Paper No(s)/Mail Da 5) Notice of Informal P				
Paper No(s)/Mail Date	—· —·	6) Other:				

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claims 56-64 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 56 recites the limitation "the cavity within the upper base" and "the cavity within the lower base" in the last paragraph. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 8, 21-23, 27-29, 47, 49, 52-55 and 112-114 are rejected under 35 U.S.C. 102(b) as being anticipated by Bergersen (4,898,535). Bergersen '535 shows a dental appliance comprising a U-shaped upper base, a U-shaped lower base, having an occlusal surface wherein the occlusal surface contacts the teeth when the base is worn wherein the base has a thickness defined between a first end and a second end wherein the occlusal surface contacts each molar when the base is worn to prevent the molar from achieving a malocclusion position, and a hinge 44 which, since the bases are molded around the hinges, are inherently inserted into cavities in the bases. The U-shaped bases have a slot or socket formed therein wherein the last molar is inserted

into the slot and wherein the first and second ends extend beyond the last molar (see figure 7) particularly if all the molars haven't erupted. As to claims 8 and 49, note that the hinge may be made of metal (column 3, lines 30-31) which is inherently harder than the material of the bases. As to claim 47, note the holes formed in the hinge (figure 5). As to claim 52, note the labial shield 38. Regarding claims 53-55, note the cavities in the upper and lower bases (formed by the curvature of the lingual flanges) to receive the tongue. As to claims 21, 112, the cavity would inherently move the tongue outward when it comes into contact with the lingual flanges.

Claims 1, 2, 4, 21, 24-26, 29, 112 -115 are rejected under 35 U.S.C. 102(b) as being anticipated by Bergersen (5,876,199). Bergersen '199 shows a dental appliance 210 comprising a generally U-shaped upper base 214, a generally U-shaped lower base 216 having an occlusal surface wherein the occlusal surface contacts the teeth when the base is worn wherein the base has a thickness defined between a first end and a second end wherein the occlusal surface contacts each molar when the base is worn to prevent the molar from achieving a malocclusion position. The U-shaped bases have a slot or socket formed therein wherein the last molar is inserted into a slot and wherein the first and second ends extend beyond the last molar, particularly if all the molars haven't erupted. As to claim 2, note the hinge 221. As to claims 4, 22 and 23, note that the occlusal surfaces are flat (see Fig. 7). Cavities in the upper and lower bases (formed by the curvature of the lingual flanges) to receive the tongue. The cavity would inherently move the tongue outward when it comes into contact with the lingual flanges. As to claims 21, 40, the method by which the appliance is designed is not given

patentable weight in the apparatus claim because the method does not result in an appliance that is structurally different than the appliance of Bergersen. As to claims 26, 115, note the lingual tabs or ribs 46. As to claims 29, note that the appliance comprises a labial shield 18 extending from the upper base and contacting the front of the mouth. As to claims 21, the method by which the appliance is designed is not given patentable weight in the apparatus claim because the method does not result in an appliance that is structurally different than the appliance of Bergersen. As to claim 22, the socket is shaped to correspond to the shape of one of the teeth (see Fig. 3).

Claims 65-69, 71 and 74 are rejected under 35 U.S.C. 102(b) as being anticipated by Bourke (5,536,168). Bourke shows a dental appliance 10 comprising a generally U-shaped base having an occlusal surface wherein the occlusal surface has a projection 18 that exerts a force on teeth. The appliance includes a cavity 36 for contacting the tongue (column 6, lines 18-23). The projections are adjacent an incisor or a molar. The occlusal surfaces are considered to be roughened by virtue of the projections.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Bergersen (4,898,535) in view of Bergersen (4,139,944). The appliance of Bergersen

'535 is not transparent. Bergersen '944 shows a dental appliance 20 comprising a generally U-shaped upper base 22, a generally U-shaped lower base 24 having an occlusal surface wherein the occlusal surface contacts the teeth when the base is worn wherein the base has a thickness defined between a first end and a second end wherein the occlusal surface contacts each molar when the base is worn to prevent the molar from achieving a malocclusion position. The appliance is made of a transparent material (column 6, lines 25-27). It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the appliance of Bergersen '535 of a transparent material, as taught by Bergersen '944, so that the practitioner can see where tooth movement with take place.

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergersen (4,898,535) in view of Bergersen (4,073,061). The appliance of Bergersen '535 does not include a fastener connecting the first and second bases together or a wire embedded within the base. Bergersen '061 shows a dental appliance 10 comprising a generally U-shaped upper base, a generally U-shaped lower base having an occlusal surface wherein the occlusal surface contacts the teeth when the base is worn wherein the base has a thickness defined between a first end and a second end wherein the occlusal surface contacts each molar when the base is worn to prevent the molar from achieving a malocclusion position. The lower base is connected to the upper base by a fastener 35 to prevent movement between the bases. A wire 40 embedded in the base for providing a force on the anterior teeth (column 8, lines 13-16). It would have been obvious to one of ordinary skill in the art at the time the invention

was made to provide the appliance of Bergersen '535 with fasteners and an embedded wire, as taught by Bergersen '061, to prevent relative movement between the bases and provide a force on the anterior teeth, if required.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bergersen (5,876,199) or Bergersen (4,898,535) in view of Watson (5,328,362). Bergersen '199 or '535 do not disclose that the base is constructed from two different materials wherein one of the material has a greater rigidity than the other. Watson shows a dental appliance made of two different materials with one material 14 having a greater rigidity than the other material 16, in order to provide a soft, comfortable appliance that is more rigid and sturdy in the occlusal regions. It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the appliance of Bergersen '199 or '535 from two different materials wherein one of the material has a greater rigidity than the other as taught by Watson, in order to provide a soft, comfortable appliance that is more rigid and sturdy in the occlusal regions where needed.

Claims 9-11, 50 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergersen (4,898,535) in view of Bergersen (5,876,199). The appliance of Bergersen '535 does not include lingual tabs or holes in the base. Bergersen '199 shows a dental appliance comprising an upper base, a lower base, and a hinge. The appliance includes holes in the base 402 to increase air intake while wearing the device, and lingual tabs 46 to keep the mandible moving forward. It would have been obvious to one of ordinary skill in the art at the time the invention was made

to provide the appliance of Bergersen '535 with lingual tabs, as taught by Bergersen '199, in order to keep the mandible moving forward and holes in the base, to increase air intake while wearing the device.

Claims 12 and 116 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergersen (4,898,535) in view of Bourke (5,536,168). The appliance of Bergersen '199 does not have a roughened surface. Bourke shows a dental appliance wherein the bases have roughened surface (by virtue of prongs 18) in order to facilitate movement of the teeth. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the bases of Bergersen '535 with roughened surfaces, as taught by Bourke, to facilitate movement of the teeth.

Claims 14, 16, 17, 19, 20, 56-62, 64, 75, 77 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergersen (4,898,535) in view of Kussick (5,779,470). Bergersen '535 does not include a concave portion that moves the tongue to an elevated position relative to the lower teeth. Kussick shows a dental appliance having concave portion 11 that moves the tongue to an elevated position relative to the lower teeth (column 1, lines 55-58) to encourage the positioning of the tongue in the proper position. which a reference mark to indicate the proper position for the appliance in the mouth (column 5, lines 51-61). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the appliance of Bergersen a concave portion, as taught by Kussick, in order to correct tongue thrust problems. Regarding claims 16 and 75, the device of does not include a positioning mark. Kussick shows a dental appliance having a reference mark to indicate the proper position for the

appliance in the mouth (column 5, lines 51-61). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the appliance of Bergersen with a reference mark, as taught by Kussick, in order to aid in proper placement of the appliance in the mouth.

Claims 30, 33, 34. 39, 103-106, 109 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergersen (5,876,199) in view of Bergersen (4,784,605).

Bergersen '199 does not include a spike formed on the lingual surface of the lower base or the upper base. Bergersen '605 shows a dental appliance comprising an upper base, a lower base, and a spike 26 formed on the lower base to prevent the tongue from moving toward the lower teeth. It would have been obvious to one of ordinary skill in the art at the time the invention was make to provide the upper or lower base of Bergersen '199 with a spike in the lingual surface as taught by Bergersen '605, to encourage proper tongue positioning to overcome tongue thrust problems. As to claim 30, the method by which the appliance is designed is not given patentable weight in the apparatus claim because the method does not result in an appliance that is structurally different than the appliance of Bergersen.

Claims 30, 37, 38, 103-105, 109 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergersen (4,898,535) in view of Bergersen (4,784,605). Bergersen '535 does not include a spike formed on the lingual surface of the lower base or the upper base. Bergersen '605 shows a dental appliance comprising an upper base, a lower base, and a spike 26 formed on the lower base to prevent the tongue from moving toward the lower teeth. It would have been obvious to one of ordinary skill in the art at

the time the invention was make to provide the upper or lower base of Bergersen '535 with a spike in the lingual surface as taught by Bergersen '605, to encourage proper tongue positioning to overcome tongue thrust problems. As to claim 30,the method by which the appliance is designed is not given patentable weight in the apparatus claim because the method does not result in an appliance that is structurally different than the appliance of Bergersen.

Claims 31-32, 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergersen (4,898,535) in view of Bergersen (4,784,605) as applied to claim 30 above, and further in view of Bourke (5,536,168). The appliance of Bergersen '199 and '605 does not have a roughened surface. Bourke shows a dental appliance wherein the bases have roughened surface (by virtue of prongs 18) in order to facilitate movement of the teeth. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the bases of Bergersen '535 and '605 with roughened surfaces, as taught by Bourke, to facilitate movement of the teeth.

Claims 31, 32, 35 and 36 are ejected under 35 U.S.C. 103(a) as being unpatentable over Bergersen (5,876,199) in view of Bergersen (4,784,605) as applied to claim 30 above, further in view of Bourke (5,536,168). The appliance of Bergersen '199 as modified by Kesling does not have a roughened surface. Bourke shows a dental appliance wherein the bases have roughened surface (by virtue of prongs 18) in order to facilitate movement of the teeth. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the bases of Bergersen '535 as

modified by Kesling with roughened surfaces, as taught by Bourke, to facilitate movement of the teeth.

Claim 63 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bergersen (4,898,535) in view of Kussick (5,779,470) as applied to claim 56, and further in view of Bergersen (5,876,199). The appliance of Bergersen '535 as modified by Kussick does not include lingual tabs extending from the lower base. Bergersen '199 includes lingual tabs 46 extending to keep the mandible advancing maximally and moving forward. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the appliance of Bergersen '535 as modified by Kussick with lingual tabs extending from the lower base, as taught by Bergersen '199, in order to stimulate more efficient forward mandible movement to correct antero-posterior jaw discrepancies.

Claim 70 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bourke (5,536,186) in view of Bergersen (5,876,199). The appliance of Kesling does not include lingual tabs. Bergersen '199 shows a dental appliance comprising an upper base, a lower base, and a hinge. The appliance includes lingual tabs 46 to keep the mandible moving forward. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the appliance of Bourke with lingual tabs, as taught by Bergersen '199, in order to keep the mandible moving forward.

Claim 72 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bourke (5,536,186) in view of Kesling (3,724,075). The appliance of Bourke does not include a wire embedded within the base. The bases of Kesling also include an wire (hook or

clasp) 40 therein. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the bases of Bourke with attachments, as taught by Kesling, in order to aid in holding the appliance on the teeth.

Claims 92-94, 97, 99, 101 and 102 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergersen (4,898,535) in view of Kesling (3,724,075). The device of Bergersen does not include and attachment in one of the bases. Kesling shows a dental appliance 20 comprising a generally U-shaped base 21 having an occlusal surface. A wire (attachment) 40 embedded in the base to lock the device in place. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a base of Bergersen with a wire therein, as taught by Kesling, in order to prevent the device from being dislodged.

Claim 95 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bergersen (4,898,535) in view of Kesling (3,724,075) as applied to claim 92 above, and further in view of Bergersen (5,876,199). The appliance of Bergersen '535 as modified by Kesling does not include lingual tabs. Bergersen '199 shows a dental appliance comprising an upper base, a lower base, and a hinge. The appliance includes lingual tabs 46 to keep the mandible moving forward. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the appliance of Bergersen '535 as modified by Kesling with lingual tabs, as taught by Bergersen '199, in order to keep the mandible moving forward.

Claim 96 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Bergersen (4,898,535) in view of Kesling (3,724,075) as applied to claim 92 above, and further in view of Bourke (5,536,168). The appliance of Bergersen '199 as modified by Kesling does not have a roughened surface. Bourke shows a dental appliance wherein the bases have roughened surface (by virtue of prongs 18) in order to facilitate movement of the teeth. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the bases of Bergersen '535 as modified by Kesling with roughened surfaces, as taught by Bourke, to facilitate movement of the teeth.

Claims 98 and 100 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergersen (4,898,535) in view of Kesling (3,724,075) as applied to claim 92 above, and further in view of Bergersen (4,330,272). Bergersen '535 as modified by Kesling does not include an tube in a base. The bases of Bergersen '272 include a tube 51, 52 therein in order to attach a headgear to the appliance. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the bases of Bergersen '535 as modified by Kesling with tubes, as taught by Bergersen '272, in order to enable a headgear to be used with the appliance.

Claim 107 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bergersen (4,898,535) in view of Bergersen (4,784,605) in view of Bergersen (4,073,061). The appliance of Bergersen '535 does not include a wire embedded within the base. Bergersen '061 shows a dental appliance 10 comprising a generally U-shaped upper base, a generally U-shaped lower base having an occlusal surface

wherein the occlusal surface contacts the teeth when the base is worn wherein the base has a thickness defined between a first end and a second end wherein the occlusal surface contacts each molar when the base is worn to prevent the molar from achieving a malocclusion position. A wire 40 embedded in the base for providing a force on the anterior teeth (column 8, lines 13-16). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the appliance of Bergersen '535 with an embedded wire, as taught by Bergersen '061, to provide a force on the anterior teeth, if required.

Allowable Subject Matter

Claims 40-46, 78-91, 110, 111, 117-122 are allowed.

Claims 13, 15, 18, 48, 73, 76 and 108 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed August 7, 2006 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., that the '199 appliance has no individual tooth sockets) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Application/Control Number: 10/665,326

Art Unit: 3732

In response to applicant's argument that the Bourke appliance does not include a cavity formed in the u-shaped base wherein the cavity moves the tongue, applicant's attention is directed to column 6, lines 18-23 and cavity 65. The cavity would inherently move the tongue outward when it comes into contact with the lingual flanges.

Applicant's arguments with respect to claims 3, 5, 6, 8, 14, 21, 30, 47, 52, 56, 65, 87, 92, 103 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments, with respect to the rejections under 35 USC 103, merely assert that there is no motivation to combine the references in the manner suggested by the Office or that the modifying reference simply do not teach or suggest the elements of the present invention. The examiner has set forth motivations and pointed out the elements in the rejections above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cary E. O'Connor whose telephone number is 571-272-4715. The examiner can normally be reached on M-Th 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cris Rodriguez can be reached on 571-2724964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Cary E. O'Connor Primary Examiner Art Unit 3732